

National Transportation Safety Board
Washington, DC 20594

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Brief of Accident

Adopted 06/20/1983

FTW82FPD13				
File No. 2168	06/20/1982	ROANOKE ,TX	Aircraft Reg No. N111CH	Time (Local): 14:20 CDT
Make/Model:	Varieze/		Fatal	Serious
Engine Make/Model:	Continental / O-200		Crew 1	0
Aircraft Damage:	Destroyed		Pass 0	1
Number of Engines:	1			Minor/None 0
Operating Certificate(s):				
Type of Flight Operation:	Personal			
Reg. Flight Conducted Under:	Part 91: General Aviation			
Last Depart. Point:	ROANOKE, TX		Condition of Light:	Day
Destination:	Local Flight, TX		Weather Info Src:	Unknown
Airport Proximity:	On Airport/Airstrip		Basic Weather:	Visual Conditions
Airport Name:	AERO VALLEY		Lowest Ceiling:	0 Ft. AGL, Unknown
Runway Identification:	17		Visibility:	7.00 SM
Runway Length/Width (Ft):	3500 / 100		Wind Dir/Speed:	100 / 005 kts
Runway Surface:	Asphalt		Temperature (°C):	85
Runway Surface Condition:	Dry		Precip/Obscuration:	
Pilot-in-Command	Age: 33		Flight Time (Hours)	
Certificate(s)/Rating(s)			Total All Aircraft:	330
Private; Single-engine Land			Last 90 Days:	73
			Total Make/Model:	77
Instrument Ratings			Total Instrument Time:	3
None				

*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***

ABOUT 5 MIN AFTER TAKEOFF, THE PILOT INITIATED A HIGH SPEED LOW PASS OVER THE AIRPORT. WHEN THE AIRCRAFT WAS ABOUT 1000 FT FROM THE AIRPORT AT ABOUT 100 FT AGL, THE RIGHT WINGLET SEPARATED. A WITNESS ESTIMATED THAT THE AIRCRAFT'S SPEED WAS ABOUT 200 MPH. SUBSEQUENTLY, THE PLANE ROLLED INVERTED AND CRASHED. AN EXAMINATION REVEALED THAT THE WINGLET WAS NOT INSTALLED IN ACCORDANCE TO THE DESIGNER'S PLANS. SPECIFICALLY, THE PLANS CALLED FOR AN 8-PLY FIBERGLASS BUILD-UP ON THE OUTSIDE RADIUS FROM THE LOWER WING TO THE OUTSIDE SURFACE OF THE WINGLET. FIBERGLASS BUILD-UP WAS NOT INCORPORATED. THE DESIGNER ESTIMATED THAT IT HAD LESS THAN 1/20 OF THE DESIGN STRENGTH. AT HIGH SPEED, WITH ZERO SIDE SLIP, THERE IS AN INWARD AERODYNAMIC (BENDING) LOAD ON THE WINGLET THAT IS EQUIVALENT TO A 15 DEG SIDE SLIP AT LOW SPEED. THIS WINGLET HAD FAILED INWARD. ALSO, A NUMBER OF OTHER DEVIATIONS FROM THE DESIGNERS PLANS WERE NOTED.

Brief of Accident (Continued)

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: MANEUVERING

Findings

1. LOW PASS - PERFORMED - PILOT IN COMMAND
 2. AIRSPEED - EXCESSIVE - PILOT IN COMMAND
 3. (C) WING,WINGLET - FAILURE,TOTAL
 4. (C) INADEQUATE QUALITY CONTROL - MANUFACTURER
 5. (F) WING,WINGLET - SEPARATION
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings Legend: (C) = Cause, (F) = Factor